



STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546



Office of the
Commissioner

An Equal Opportunity Employer

Public Hearing – March 10, 2010 Transportation Committee

Testimony Submitted by Commissioner Joseph F. Marie Department of Transportation

S.B. 411 - An Act Concerning the Replacement of the Broad Street Bridge over the Amtrak Railroad Tracks in Hartford.

The Department of Transportation (Department) strongly supports S.B. 411 to allow the minimum overhead clearance for the new replacement structure carrying Broad Street, Bridge Number 03629, over the Amtrak railroad tracks in Hartford to be nineteen feet, four inches. The New Britain to Hartford Busway is to be constructed parallel to the Amtrak railroad passing under the bridge that carries Broad Street. The configuration of the existing bridge's piers does not allow for the Busway to pass under it. The Department proposes to replace the bridge with enough space underneath and pier locations that will accommodate the Busway, Amtrak's mainline rail and a future second rail.

The bridge replacement design is being coordinated with a city of Hartford (City) project that will reconstruct Broad Street on both sides of the bridge work, between Capitol Avenue and Farmington Avenue. The bridge and street designs meet Federal and City design criteria.

Subsection (a) of Connecticut General Statutes, Section 13b-251, states that the minimum overhead clearance for any structure passing over railroad tracks shall be twenty feet, six inches. The existing minimum overhead clearance of the Broad Street Bridge is nineteen feet, one inch. The proposed replacement of the Broad Street Bridge will provide for an increase in the minimal overhead clearance to nineteen feet, four inches.

Constructing the new bridge in a manner that achieves twenty feet, six inch clearance is not prudent because of the impacts such a design would cause. Because of local physical constraints, including the proximity of the Hartford Courant (Courant) building, the State Armory (Armory), the railroad and Interstate 84 on and off ramps, constructing the replacement bridge to meet the twenty feet, six inch clearance requirement would unavoidably impact adjacent properties and increase project costs significantly. The only available option to achieve twenty feet, six inch clearance would be to further increase the height of Broad Street over the railroad, causing an increase in the street's height by as much as five feet along the frontage of the Courant and the Armory. This amount of increase in street height could cause the possible loss of function of the Armory's access bridge and the Courant's entrance to their under-building parking area. The cost implications associated with the dramatic effect to, or possible loss of, access to the Courant or Armory has not been estimated. See Attachment "A" for additional information.

For further information or questions, please contact Pam Sucato, Legislative Program Manager for the Department of Transportation at (860) 594-3013.

Attachment A

Replacement of the Broad Street Bridge over AMTRAK railroad tracks in Hartford

Feasibility of Increasing Overhead Clearance to Twenty feet, Six inches.

The existing minimum overhead clearance between the railroad tracks and the underside of the Broad Street Bridge overpass is nineteen feet, one inch. The proposed replacement of the Broad Street Bridge will provide for an increase in the minimal overhead clearance to nineteen feet, four inches. Increasing this minimum clearance further would require one, or a combination of the following: making the new bridge's superstructure thinner; lowering the track; raising Broad Street.

Making the new bridge's superstructure thinner – This option was studied, and it has been concluded that the design of the new bridge's superstructure has already been optimized. No further reduction in the depth of the superstructure is possible. A total depth of superstructure of thirty two inches is proposed, which is less than the existing superstructure depth of thirty six inches.

Lowering the track - There is little opportunity to lower the track by undercutting, without major impacts on track drainage; environmental costs; and the railroad bridge crossing of the I-84 ramp to the east. These constraints, and the high construction costs associated with substantial track lowering, mean that any potential gain in vertical clearance by lowering the rail will be nominal.

Raising Broad Street - The project site has many physical constraints including the railroad, I-84 mainline and ramps, and entrances to The Hartford Courant (Courant) building and the State Armory (Armory). Broad Street vertically weaves, spanning over the railroad and going under the I-84 exit ramps to Capitol Avenue and Asylum Street. Design parameters that affect the Broad Street vertical alignment are the need to maintain a minimum overhead clearance of fourteen feet, six inches for Broad Street under the I-84 exit ramps, and the need to limit the maximum grade (steepness) on Broad Street to seven percent to meet the City of Hartford Design Criteria. Slight relaxing of these minimum criteria does not allow for a significant increase in overhead clearance. Also to be considered is the intersection sight distance at the I-84 on ramp.

In order to achieve the twenty foot, six inch minimum vertical clearance over the railroad tracks, while maintaining the design parameters stated above, the amount of roadway reconstruction would have to be greatly increased. The vertical alignment of Broad Street would have to be substantially raised along the Courant's and Armory's frontage, with maximum increases in the range of two feet.

- Construction costs would increase by approximately \$1.4 million. With incidentals and additional program overhead costs, the total cost would increase by approximately \$2.8 million.
- Retaining walls would be required for a portion of Broad Street's frontage.
- Impacts include the possible loss of function of the Armory's access bridge and substantial revisions to the Courant's entrance. The mitigation costs or compensation could be high, and are not included in the \$2.8 million figure above.
- The construction duration would be expected to increase by one year. This extended duration would have a greater impact on traffic flow and the community as a whole.
- The longer construction duration would raise railroad costs associated with track protection.